



A BIMONTHLY REPORT ON RESEARCH LIBRARY ISSUES AND ACTIONS FROM ARL, CNI, AND SPARC

MANAGING DIGITAL ASSETS IN HIGHER EDUCATION: AN OVERVIEW OF STRATEGIC ISSUES

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Teaching and research in higher education are increasingly dependent on primary and secondary sources that are available in forms other than traditional paper-based books, journals, and manuscripts. To reflect the diversity of materials, especially in digital form, and their importance to academic pursuits, it is increasingly common to refer collectively to these sources as “assets” of a college or university, or of the academy in general. The notion of “managing digital assets” is also surely meant to allude to the realm of finance and insurance, and to suggest that we are operating in a realm where change is rapid, and where prudence, skill, imagination, courage, and a good deal of risk taking are coins of the realm. However, let me say plainly at the outset that the digital assets that are the subjects of this paper are resources for research and teaching in higher education, and that the aim of academic institutions in managing them is to advance knowledge and improve education. To paraphrase the slogan from the 1992 Clinton campaign: “It’s the scholarship, stupid!” The touchstone question for all the topics covered in this paper must be: How well does this resource, or that system or feature, advance scholarship?

I also want to emphasize, as a corollary principle, that these assets—these resources for research and teaching—are the lifeblood of the academy. I was reminded recently that not every college and university recognizes the centrality of their research and teaching resources in explicit declarations like mission statements or even in practical day-to-day decision making. For purposes of this discussion, I take my cue from the great religious historian, Jaroslav Pelikan, who in 1992 published a very useful book entitled *The Idea of the University*:

A Reexamination. Originally delivered as a series of lectures at Yale University, it is a meditation on and attempt to update John Henry Newman’s classic work on higher education. In his *Reexamination*, Pelikan identified four core and enduring functions of higher education: research; teaching; the dissemination of knowledge through publication; and the preservation of, and access to, the scholarly record in libraries and archives. The latter two functions—dissemination and preservation and access—refer to the life cycle of scholarly resources that are used and produced in teaching and research and are the objects of scholarly communications.

If, as seems evident, scholarly resources in digital form are playing an increasingly important role in scholarly communications, then we must also acknowledge by way of introduction, that the allocation of roles and responsibilities for managing these resources will be equally important and will shape the future of higher education. These roles and responsibilities are in flux and the future is uncertain, but as we plan for the future, we might usefully turn for comfort and lessons to the history of the development of other communications media, such as print, with which we are more familiar. Some of you undoubtedly have read the fascinating work by Adrian Johns entitled *The Nature of the Book: Print and Knowledge in the Making*. One of his primary theses is that print, which we now all but take for granted, did not simply emerge in the conventional form that we now know it. Rather, these conventions were laboriously constructed over time. As Johns tells the story, there was little confidence in the medium at first, which was full of fraudulent uses that were difficult to distinguish from the legitimate ones. The term piracy, in fact,

“seems to have been coined by John Fell, bishop of Oxford, to describe the rapacious practices of [early] London printers and booksellers. It had a technical meaning: a pirate was someone who indulged in the unauthorized reprinting of a title recognized to belong to someone else.” The development of printing, according to Johns, was nothing less than the working out of a complex “taxonomy of practices labeled piratical—from piracy itself, through abridgement, epitomizing, and translation, to plagiarism and libel,” and the allocation of trust and credit to some of these practices and distrust and discredit to others.¹

These manufacturers of credit, as Johns usefully calls them—the men and women of the trade who were in the thick of this battle to define legitimate print practices—were subsumed under the title “stationer.” Stationers were responsible for the art and mystery of printing, much like today’s technologists are responsible for the art and mystery of digital communication, but the tasks for which they were responsible were many and varied, including functions that we would today identify in separate roles such as printer, publisher, editor, reviewer, wholesaler, and bookseller. For print, stationers worked out over time the conventional practices of making books, which in turn came to affect and determine the making of knowledge. And as they did, print became sustained as a viable economic enterprise and the elaborate, complex, infrastructure of producing a book eventually became invisible to all but the practitioners in the trade. Similarly, specialists in libraries, publishing houses, universities, and in upstart new businesses over the past several decades have been busy sorting out the various tasks associated with scholarly communications in a digital world. Eventually, these roles will settle out into a stable ecology of interaction—but the effort promises to continue for the foreseeable future.

As this sorting out occurs, where will the action be in the coming decade? I suggest that we look for clues, first, to where the action has been in the recent past. One of the largest, most visible, and fastest growing investments in scholarly communications by colleges, universities and scholarly publishers over the last decade has been in the shift to electronic journals and databases, and in a corresponding shift from purchasing to licensing. I would suggest that the implications of these shifts will be critical in the coming decade—and perhaps in some unexpected ways. To tease out these implications, I first want to review and critique the current debate about scholarly publishing. Then I will turn to acknowledge the big elephants lurking about in our midst—namely, Google, Yahoo, and Microsoft—and highlight how questions and issues might shift in light of what we are learning about the role of search engines.

The “Crisis” in Scholarly Communications

The flash point of the recent debate about scholarly publishing has been the phenomenon of steadily increasing prices. In the early 1990s, a Stanford economist named Roger Noll and his colleague, Edward Steinmueller, identified a basic structural effect in scholarly publishing that causes journal prices inexorably to rise. Increasing specialization of knowledge and the interest of scholars in publishing in the “best” journal in their specialty leads to a proliferation of journals. Specialty journals have a narrower readership than established journals of more general scope and may siphon readers from them. As readership falls, journals then require increasingly higher prices simply to cover basic costs.² This pattern of specialization, journal proliferation, and price increases has been evident for more than the last 50 years with the fantastic expansion of fields in science, technology, and medicine since World War II, and it helps explain why the “crisis in scholarly communications,” especially in scientific, technical, and medical fields, has been a perennial problem, the focus of several national commissions, and vigorous, ongoing discussion.³

With the introduction of digital versions, which are easier to use for many purposes and much in demand, the crisis has not abated, as many, including the Mellon Foundation, hypothesized it would. Instead, it has in some ways worsened. Prices continue to rise at rates significantly above inflation.⁴ Meanwhile, publishers seek both to protect their revenue streams against cannibalization effects, as digital files have leaked out and circulated to those who did or might have purchased a print version, and to help finance the retooling of their technical systems. Moreover, a classic example has played out in the academy of the pricing distortions that can arise from the so-called principal/agent problem, that is, when agents—provosts and librarians—act in place of the principal consumers—the scholars. Rather than resisting enormous annual price increases, those agents largely agreed, especially during the booming ‘90s, to finance them. A provost once justified such payments to me by saying: “It is my job to feed the hearts and minds of the faculty and staff. For healthy hearts, I must provide extraordinary annual increases in budget for health care; for their minds, I must provide similar increases in the serials budgets.”

Now that resources are squeezed, attention has focused on the increasingly deleterious effects of these previous financial agreements while yet still neglecting the basic underlying structural problem that Noll and Steinmueller identified. On many campuses, administrators have mobilized faculty, calling them to account as editors and authors of expensive journals and

involving them more deeply as principal consumers in ongoing purchase and cancellation decisions. Big deals have been undone, and bundles unbundled. Researchers and federal regulators have scrutinized publisher consolidation for cause to justify government antitrust action. Publishers, for their part, are increasingly militant about plugging the digital leaks from interlibrary loan, electronic reserves, and other forms of file sharing. In addition, members of the academic community have embarked on a vigorous search for other, alternative business models. This search has resulted in stimulating and sometimes heated debates about the viability of a suite of options under the broad umbrella of “open access.”⁵

In its narrow formulation, open access publishing would disrupt the current system by shifting the burden of generating revenue from the demand side through widespread use of subscriptions, to the supply side “by charging authors or their sponsors for dissemination, or by some kind of institutional subsidy,” making use cost-free.⁶ Such a shift would have the benefit, in theory, of putting the principals—the scholars—back in the economic driver’s seat, and it would have the broad public policy benefit of lowering the economic barriers to reading and using the publications. Discussion of this idea has quickly revealed that in very few disciplines do scholars have sufficient funds from grants and other sources to pay author fees, and that there would be an administrative nightmare if academic institutions that are already financially strapped for funds were to massively reallocate budgets from library acquisitions and other sources to support author fees in any kind of fair and equitable fashion. Publications adhering to this model of open access will undoubtedly continue to be created and survive, but they will probably be limited in number unless and until sources of supply-side revenue can be found other than grant support, and that do not require fundamental administrative and financial overhauls of our institutions.

A broader approach to open access recognizes these practical difficulties and focuses on other ways to lower the barriers to access, such as by encouraging publishers to make articles freely accessible after a limited time during which they exploit subscription revenue,⁷ or by embracing the older call for authors to “self-archive,” that is, to retain rights to make their articles openly accessible in preprint and/or postprint form.⁸ One theory is that if enough authors were self-archiving, then new services could arise to collect, aggregate, evaluate, and present these articles to users. At some tipping point, as yet undetermined, these services might serve to challenge and undermine the economics and inefficiencies of the current system of publication.⁹

The key barrier to a complete transformation following this scenario, however, is an asset management

issue. Does it make sense for systems of knowledge to be built upon the fragile infrastructure of a network of personal Web sites that are subject to personal whims, not to mention the migratory habits of individuals? Institutional repositories might help, especially if they were to collect other related faculty output, such as underlying data and teaching materials.¹⁰ Cheap, easy-to-use-and-manage publishing tools, such as those being developed at some universities, and increasing reliance on sophisticated “recommender” systems to judge relevance and quality after publication rather than before might also help, especially if they are applied in the early stages of rapidly advancing new knowledge, where innovative means of documenting new knowledge are most needed.¹¹ However, in order to justify the necessary and significant costs of such repositories and tool development, colleges and universities must develop compelling rationales for collecting, preserving, and providing access to these kinds of scholarly output. Moreover, these innovations must be invested with features of the current scholarly publishing system that preserve trust in the authenticity of academic work and reliably allocate credit.

Because there is so much at stake for individual faculty in the ways that the current system confers credit and authenticity, it appears that these factors are going to be the hardest to disrupt. Even the self-archived material in physics and related disciplines in Paul Ginsparg’s famous ArXive has not resulted in substantial shifts from traditional forms of publication—at least not yet. Still, efforts to build new models of scholarly communications based on rights to self-archiving, institutional repositories, and innovative publishing tools have gained growing interest, and they remain worth exploring.

Looking beyond the “Crisis”

Important as the serials crisis is, and as pregnant as the discussions about open access alternatives may be, there are even larger forces at play. These are only partially revealed in the system of scholarly publishing, and may even be obscured by a narrow focus on pricing and open access. First, whatever happens with open access, it is not likely to result in a uniform, utopian solution. As Jason Epstein has written, “the global village green will not be paradise. It will be undisciplined, polymorphous and polyglot.”¹² The academic world is and will undoubtedly remain highly pluralistic. Just within the domain of publishing, traditional journal production will remain with us for some time and the shift of those journals to electronic forms of dissemination is likely to continue.

Moreover, our institutions have a lot to gain economically in this transition from print to electronic publishing. Not only do electronic publications provide

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greater functionality for teaching and research than those in print, but also as a recent study published by the Council on Library and Information Resources has shown, there is good evidence that the considerable operational costs in libraries of ordering, receiving, processing, shelving, and circulating physical copies can be eliminated by a shift to electronic versions. In the aggregate across institutions, these potential savings may total in the tens of millions annually.¹³ It is worth noting, however, that these are the costs in the print world that represent our system of archiving. Cutting those costs without putting in place reliable preservation archives that are committed to the academic mission remains a problem, and there is, unfortunately, a widely held view among our academic institutions, including libraries and publishers, that savings are theirs to capture and reallocate, and that covering the costs of preserving digital assets for the long term is a responsibility for someone else.

In the face of this reasoning, let me cast the archiving problem in even starker terms. The shift to electronic publication in its current form represents a dramatic, jump-off-the-cliff shift in the academy from owning scholarly output to effectively renting it.¹⁴ The rallying cry about pricing asserts that the academy is giving away its products only to buy them back. However, under current licenses, research and academic libraries do not “buy back” content in the sense of taking local possession of a copy as they did with print. Rather, they use content stored on remote systems controlled by publishers. Moreover, current licenses limit use so that more traditional, mostly regional initiatives for collaborative collection development and resource sharing across institutions are now next to impossible. Instead, the hundreds of thousands of dollars going out the door each year typically buy only a year’s worth of access to the resource and only for members of a single institution. And even if a license recognizes so-called “perpetual access” rights for the material to which an institution subscribes each year, these rights are largely theoretical.¹⁵ Typically, publishers promise to transfer the material on a pile of CDs or tapes, but I am not aware that any such transfer in a perpetual access claim has ever taken place, and it is unlikely that any institution has or will build the capacity to implement such a solution. Not only have prices risen, but the material terms of the licensing deals are transforming—and I would suggest severely weakening—the underlying

infrastructure of resources available for teaching and research.

The negative consequences of electronic publishing that I have outlined were clearly not intended, and they may not yet overwhelm the benefits that the academy has gained, but the unintended consequences could be even worse. Let me suggest a scenario that starts with the observation that many of the largest publishers have now achieved the price increases that they need to survive in an electronic-only world. Their journal business is now declining as a proportion of sales, and unit prices are also declining as they take advantage of the technology and add content. They are moving on to new businesses. The one that has the most promise is offering data-mining services. Such services require large

aggregations of electronic journals, data, and other materials, and promise to help scholars uncover hidden connections and new lines of research. The large publishers have already formed an aggregation of citations in CrossRef,¹⁶ and they could build a similar one for their journal content and other related materials. In a not-for-profit organization, like CrossRef, which manages a cross-publisher aggregation, it would be a short step to build preservation into the mission and for the aggregation to become a publisher-created preservation archive.

This scenario is highly plausible, perhaps more so than promises about the transformative nature of open-access publishing, and the implications are at least three-fold: (1) libraries will not own the publications that form the scholarly record; (2) libraries will not own the archive of the scholarly record; and (3) publishers will charge whatever the market can bear for data-mining services because they control all the underlying resources. In other words, if universities and libraries fail to act responsibly and soon in creating archives of electronic journals and other scholarly resources, and publishers act instead, the way will be clear for them to complete a massive transfer of wealth and control over the scholarly record.

The need for action is urgent, and in a licensing regime, the key strategic element for library action is the archives they choose to create now at this key point of transition. Fortunately, there are hopeful signs. In the US, archiving solutions, like LOCKSS and Portico are maturing and successfully recruiting publisher and library participants.¹⁷ The Library of Congress’s National Digital Information Infrastructure and Preservation Program (NDIIPP) has mounted a

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significant effort on this issue for a broad range of materials involving a large set of institutions.¹⁸ In addition, a growing number of senior officers of our colleges and universities—presidents, provosts, and chief financial officers—are beginning to understand the huge risk to the future of their institutions' core operations caused by the growing dependence on a record of scholarship for which the institution is paying substantial sums but on which it has no real continuing claim. They are beginning to recognize that a preservation infrastructure is needed across the board, not just for electronic journals, and that to build it they must act collectively across traditional institutional and disciplinary boundaries. Against the backdrop of these strategic issues, it is hardly worth mentioning that open access, however it is defined, does not in itself provide an answer to the preservation problem; it simply presents the problem in another form.¹⁹

The Elephants in Our Midst and Their Implications

An even more significant set of strategic issues that has the potential to profoundly and permanently disrupt the patterns of higher education is what Lorcan Dempsey of OCLC calls the "Amazoogle effect."²⁰ It is now well known, and still deplored by some, that Amazon, Google, Yahoo, and other online systems are the first and sometimes only stops for students doing research. Faculty, too, have come to depend increasingly on these services. Amazon has been working closely with publishers for years to make the contents of current publications more accessible and "search friendly." Google too has tried to achieve similar goals, although there is growing evidence that it is clumsy, even inept, in its relationships with publishers and libraries. Google Scholar, which was announced in the fall of 2005, is far from comprehensive in its coverage, but its ability to parse out citations from articles, among other remarkable features, shows how Google can bring exceptional technical expertise to some of the more nuanced and specialized needs of scholars. And this is not the end. As the first anniversary approached of Google's announced plans to launch a large scale retrospective digitization project based in five major research libraries, Yahoo and Microsoft announced their participation in a related effort, led by the Internet Archive, focused on out-of-copyright and public domain materials, and called the Open Content Alliance (OCA).

One of the most common figures of speech that has appeared in public discussions of digitization over the last decade has been the invitation to imagine having the entire Library of Congress available electronically and accessible at the click of mouse. The investment of both Google and the Internet Archive in re-engineering the digitization process and of significantly reducing the

costs so that each could undertake its own initiative means that the vision of digitizing the holdings of our largest research libraries is not only imaginable but may actually be within reach.²¹ These initiatives and the related and competitive projects they stimulate could be incredibly valuable for the public and for the academy in particular. But that Google, Yahoo, and Microsoft are undertaking this effort, not for philanthropic purposes, but for business reasons, means that higher education—at least its library and publishing arms, which are responsible for collecting, preserving, providing access to, and disseminating content of scholarly significance—now has formidable for-profit competitors with considerable resources and their sights set squarely on key parts of the higher education business.

The outcomes are far from certain. The relationships between the work of the Open Content Alliance and that being undertaken in Google's library projects are unclear. Publishers and authors are now suing Google for copyright infringement in the arrangements it has made with libraries. Moreover, in making secret deals, and failing to articulate coherent and collective public interest objectives, the Google 5 libraries may well have squandered a substantial part of the public trust, which they and their institutions have taken decades, even centuries, to earn.²² But let us leave these concerns aside and assume that, one way or another, large-scale digitization of the kind envisioned by Google and its partners and by the Open Content Alliance takes place.

Among the big strategic questions for higher education would be how scholarly communications should be organized in such an environment. These questions have scarcely been identified, much less aired and fully discussed. I am going to leave a number of these issues to one side today and instead highlight several other broad implications of the potentially disruptive influences of Google and OCA on the academy and particularly on the ways that the academy manages and uses its scholarly resources.

The "Processed" Publication

First, I want to draw attention to an idea that Joseph Esposito highlighted a few years ago in a *First Monday* article.²³ For scholars, massive digitization and open access are not ends unto themselves. The central issue is whether scholars can advance knowledge in ways that were not previously possible. Scholars need to make use of digitized and open access materials. Esposito's insight is that at the highest level of generality, what unites our interest in digitization and open access in a digital world is that the material becomes "processable," or subject to computational processing. That is, the growth in the market of readers is not among groups of humans, but of machines, which are programmed to index, manipulate, mine, aggregate, decompose, and

build up scholarly and other forms of content by algorithm. It is this machine “processability” that makes digitized objects and open access materials most valuable to scholars.

Intellectual Property

This brings me to a second point about intellectual property. The temptation is to throw up one’s hands in despair at the massive cost of meticulously clearing the rights of every rights holder in an object that is to be made “processable,” and either to abandon digitization of copyrighted material altogether, or to engage in efforts—also costly but often not accounted for—to stay under the radar of the copyright police. These approaches stand in contrast to a growing set of initiatives, including Mellon-funded initiatives such as JSTOR, ARTstor, Columbia International Affairs Online (CIAO), the American Council of Learned Societies (ACLS) History E-Book Project, the BiblioVault project at the University of Chicago, the Electronic Enlightenment at Oxford University, and New World Records, all of which demonstrate that communities of users and publishers can find ways to create the needed trust and goodwill and agree to overcome the costly barriers of copyright to create highly useful, digitized and “processable” collections of research and educational materials.

For the enterprising and clever, there are countless business opportunities here to be tried and exploited. To pave the way for such entrepreneurial activity and economic growth, intellectual property, and the bundles of rights and duties that surround it, may need to be re-conceptualized, but not in the terms of the already stale and vitriolic debate about copyright and “copy-left.” Rather, there may well be a need and opportunity to learn from Adrian John’s history of print and to recalibrate licenses, intellectual property rights, and even copyright law itself against a richer taxonomy of uses appropriate to digital technologies, many of which may currently be regarded by design or default as “piratical.” Google, for example, seems prepared to respond to the infringement suits by arguing that creating an index is a fair use of copyrighted material.²⁴ This is a clever and enterprising argument and might be plausible if only Google swore off other uses of the copies of copyrighted materials it would make, which it is apparently unwilling to do. Because machine indexing has become such an integral part of the infrastructure today for serving the US constitutional principle of promoting “the progress of science and the useful arts,” legislation that redefines such indexing as legitimate and provides the necessary ancillary protections may well be warranted—and preferable to an ambiguous court decision in a fair use case.

Search

Third, I would highlight the need for new and expanded search and research capabilities as one example of the type of entrepreneurial activity that is needed to build the necessary infrastructure for future scholarly communications. Google’s indexing of full text in its library projects would be generated by optical character recognition (OCR) and could greatly expand and facilitate basic searching and retrieval. Serious thought now needs to be given about ways that Google and other search engines’ technologies could be used to achieve the metasearch and other service objectives we are trying to achieve, sometimes at great expense, in the catalogs of our local systems.²⁵ However, we also need to be thinking imaginatively beyond the local system and traditional library catalogs.²⁶

The sheer volume of digitized material, for example, would require implementation of much more sophisticated indexing, searching, and filtering techniques, including broad application of computational linguistic and related statistical techniques as well as sophisticated techniques for filtering based on markup and thesauri, which would relate results to discipline-based concepts and concerns.²⁷ Above all, there will be growing demand for mechanisms to link search results flexibly across systems in ways that resemble but will be fundamentally different from metasearching across catalogs. To provide a simple example: how easily could one search for related materials in ARTstor, and JSTOR, and, say, Readex NewsBank? Google or Yahoo may be able to respond to a basic demand for cross-searching, but as scholars become more sophisticated in their use of these technologies, their needs will become correspondingly more specialized and discipline-specific in ways that it will likely be unprofitable to address for commercial companies aimed at the mass market. Search and information retrieval is a growth industry not only in the general economy but also for scholarly communications. Solutions that the large search engines cannot supply will have to come from search applications developed within and for the academy, and finding these solutions should be a high priority for the academy, its libraries and publishers, to address.

Research Methods

The fourth strategic area that I would highlight is the advance of new discipline-based research methods. The development of search technologies will drive the scholarly use of massively digitized resources, but scholarly use will also shape and guide the development of particular technologies and applications for specific disciplinary pursuits. Disciplines will need to develop new and specialized methodologies—an informatics of standards and practices—to identify, mark up, and

explore the large volumes of digital information with which they each need to work: economists with tabular data in government publications; literature scholars with literary texts from various genres; social historians with contemporary accounts of various aspects of social life; ethicists with case studies of ethical dilemmas; art historians with evidence about the context of artists and their art; and so on. As scholars in various fields of study develop experience with these materials, the disciplines and subdisciplines will need to develop and codify practice.²⁸

New Publication Emphases

Fifth, as scholars begin to formulate how the use of databases and newly digitized materials could advance knowledge in their fields and begin to set discipline-based standards for how these materials should be organized for systematic, machine use, then we will likely need to pave the way for three further types of intensive scholarly activity that will increasingly dominate scholarly publishing:

- Editorial activity will shift, field-by-field, to the markup and online annotation of digital (or digitized) source materials to shape them for scholarly activity and machine processability in particular disciplines.
- Given appropriately edited and marked up resources, and proficiency in new methodological techniques, scholars will begin to generate and report results based on research using these methods. These reports will refer systematically to digitized sources and may incorporate them in various ways. They will make increasing use of the power of the computer to illustrate and represent ideas graphically; to simulate physical, biological, and social systems; to engage the reader interactively; and to document ideas encyclopedically with data and other evidence that are portable and recombinant in ways that allow arguments to be tested, proved, and extended. Complex works with these features will be the natural descendant of the monograph and the journal article, but will fit naturally in neither category.
- And, as scholars learn new ways of interpreting evidence and the scholarly record, they will be learning new ways to write and will need tools and processes to assist them and to make

dissemination throughout the academy easier and affordable in discipline-appropriate ways.

Researchers at the Institute for Advanced Technology in the Humanities at the University of Virginia and elsewhere, such as Robert Darnton, Edward Ayers, William Thomas, and others, have been modeling these new forms of scholarly practice in the humanities,²⁹ and there are already countless examples in the sciences.

New Collection Emphases

The sixth area that I would highlight as strategically crucial for the future of scholarly communications is the need for dramatic shifts in the emphases in collection building in libraries. If large quantities of published materials are available online through some common

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interface, it will be increasingly hard to distinguish libraries based on their holdings of these materials. Instead, libraries and their institutions will increasingly be distinguished by the special collections of rare and unique materials that they hold and by the scholarly services they provide for these materials,

especially in conjunction with similar collections at museums and archives locally and around the world. Special collections are often inaccessible or under-processed, and the forms of description do not integrate well with other kinds of catalogs. Several institutions, including the Historical Society of Pennsylvania, the Virginia Historical Society, Columbia University, University of Virginia, and others, have been working together in recent years to develop innovative methods of appraising special collections for processing; others to simplify the cataloging.³⁰

Perhaps even more important is the need for more aggressive development of collections in new media. Recent and contemporary culture both here and abroad is documented in audio recordings, in still and moving images, broadcast media, and in various exclusively digital formats, such as large-scale, machine-generated scientific data sets, geographic information systems, simulations, Web pages, and weblogs. Scholars will increasingly need access to these materials for teaching and research.³¹ Concerted action is especially needed among libraries to ensure that these materials are actively and comprehensively collected and processed for scholarly use. Economies of scale, and the complexities associated with intellectual property rights management may prove that individual libraries need more centralized, collaborative mechanisms to achieve these objectives.

Interaction between Digital Library and Learning Management Systems

The last strategic issue that I would highlight is the need for more seamless interaction between digital library, publishing, and learning management systems. There is a pedagogical trend to incorporate the use of primary sources and research methods more deeply in the curriculum of higher education, and this trend will likely continue, but will also vary by discipline. As scholars in different fields gain experience with and develop discipline-based methodologies for using large-scale digitized content, as well as special collections and new media collections, they will need to incorporate the material and train students in the research methods. Demand will grow for deepening connections between digital library systems used for managing digital assets in various forms and combinations of licensed, digitized, and open access materials and learning management systems such as Sakai. Conversely, at least some of the content specifically created for teaching and learning will need to flow to digital library systems for long-term management and preservation. Essential for the effective management of the flows of content among digital library systems and between digital library systems are mechanisms, like Shibboleth, for building and expressing levels of trust between owners and users of the digital assets.³²

Conclusion

There is a view that the promise—or curse—of commercial digitization activities is that they will make libraries and publishers within the academy largely irrelevant. I hope you can tell from the strategic issues that I have highlighted for you this morning that I find such a view to be spectacularly uninformed and shortsighted. Rather, the promise—or the curse—is that scholarly communications has become a vastly more interesting enterprise than it has ever been. It is increasingly possible for scholars to have unprecedented access to the resources they need to engage issues that have remained elusive or even unthinkable. The challenge for us is to be both extraordinarily innovative and conservative at the same time: Innovative in that we must organize ourselves to take absolute best advantage of the opportunities; and conservative in that we must protect our gains and not screw up the scholarly process.

What about roles and division of labor? I cannot be prescriptive about what libraries or publishers should be or do in the new ecology of scholarly communications. There is just too much to do, and the competition from

higher education institutions abroad, especially in Asia is growing rapidly. The need is great for imagination, expertise, and other resources to be applied wherever they can be found, but please allow me to emphasize the powerful paradox of digital technologies.

Their use can be hugely liberating at the individual level, opening new realms of investigation for the scholar and new levels of educational attainment for the learner, especially those of lesser privilege here in the US as well as abroad. It is this spirit of democratization that is a treasure to see in evidence in the open access debates. At the same time, for reasons of economy and scale, the academy can unleash these democratizing activities only if it is able to consolidate core pieces of the infrastructure—the digitization process in the Google and OCA projects; software development for DSpace, Fedora, Sakai, and other open-source initiatives; and the aggregation of content in JSTOR, ARTstor

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and other databases. To build this common infrastructure, the need is huge for collaboration and collective organization involving shared financing and responsive governance at levels that are probably unprecedented, and this need raises another, larger question about how the academy can reorganize itself to accommodate efficiently and responsibly within its embrace entities that essentially outsource library, publishing and related functions that once were held closely within individual institutions. The California Digital Library is one model of outsourcing within a state system. JSTOR, ARTstor, and Portico, and LOCKSS represent yet other models, and the Mellon and Hewlett Foundations are experimenting with yet another in their jointly funded creation called Ithaka, which is designed to stitch together with common services ARTstor, JSTOR, Portico, and a family of other scholarly support entities.³³ These resources simply cannot take shape if they are imagined to be “one off,” or ad hoc organizations. Presidents, provosts, deans, scholars, librarians, press directors, editors, and technologists together must find ways within the larger academic community for their institutions to work together to realize the extraordinary economies of scale that are possible, and foundations like Mellon should not be seen as the “deep pockets” to which they turn to cover the costs of these entities, but as catalysts in the necessary effort to establish them financially and organizationally as new modes of ongoing operation in higher education.

Let me now leave you with a cautionary tale from Adrian John's *Nature of the Book*. In 19th-century England, there arose a group called the Society for the Diffusion of Useful Knowledge. Worried that an educated working

class could be a dangerous force in society, it resolved to swamp the country with cheap magazines—the Penny Cyclopaedia and the Penny Magazine—that contained absolutely nothing “to excite the passions.” To achieve this mission, the society was the first group to make full, industrial use of the steam press, a remarkably cost-effective technology at large scale. By 1832, the society’s magazine was “by far the most extensively circulated periodical works that issue from the press.” It estimated its readership at the then unprecedented figure of one million.

However, for all the attention to cost-effectiveness, critics of all persuasion attacked the project and it eventually failed. Conservatives were convinced that the project dispersed unnecessary ideas that might still prove dangerous. Radicals, on the other hand, complained that the magazines contained no really useful knowledge. Instead, they said, rather than meeting demand, the society sought nothing more than to “stuff our mouths with Kangaroos.”³⁴

As discussions continue about how most effectively to manage scholarly digital assets, let us not fall into the trap of the Society for the Diffusion of Useful Knowledge and lose sight of the ultimate objective: meeting demand for useful knowledge. Let us be on the lookout for the “Kangaroos.”

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ONLINE MUSIC SERVICES AND ACADEMIC LIBRARIES

by Amanda Maple, Music Librarian, University Libraries, The Pennsylvania State University¹

As of fall 2005, nearly 70 colleges and universities had license agreements with online music providers such as Napster, Cdigix, Ruckus, Rhapsody, iTunes, and most recently, Yahoo! Music, to provide their students access to music audio files.² Penn State University was the first to announce such an agreement.

This paper reviews recent events related to electronic access to digital audio and their implications for academic institutions. For libraries, these events amplify a series of challenges regarding ownership, management of intellectual property, preservation, and the future of collection development—most of which are similar to questions raised by the distribution of electronic journals. But online music also raises some newer questions related to distribution models and the need for digital library planning to coordinate closely with other technological developments in higher education.

Widespread music file sharing started in 1999 when Shawn Fanning, with help from others, developed a way to find MP3 files on personal computers connected to the Internet, and share copies of those files between personal computers. This method of file-sharing between personal computers became known as peer-to-peer (P2P), and Fanning's program, called Napster, also incorporated technologies for chat rooms, instant messaging, hot lists, and message boards.

P2P software was rapidly adopted and, by 2004, Mark Katz was reporting the results of surveys of people who shared music using P2P networks. He identified the advantages of P2P networks for the large number of participants: the ability to find almost any music recording, learn about many different kinds of music, connect to other people with similar musical interests, and acquire or send files immediately. Katz also noted, "An entire generation of listeners will come of age not knowing of a world *without* such possibilities."³ These music users, now students and faculty at our colleges and universities, bring technological expectations to their academic classroom and library experiences.

The Impact of Napster on Campus

Napster transformed the music listening habits of a generation and set off changes within the music industry and in academic institutions. As college and university students began to use the Napster software to discover and exchange music files and create online musical communities, use of their schools' Internet bandwidth skyrocketed, causing problems for other network users

and the institutions' network managers. The copyright owners of much of the music content being exchanged also objected, because Napster users were obtaining content without paying anything to the copyright owners.⁴

Napster was shut down in 2001 as a result of a court decision in a lawsuit brought by sound recording publishers in a case known as A&M Records, Inc. v Napster, Inc. The court determined that by knowingly facilitating unauthorized sharing of copyrighted music, Napster violated the distribution and reproduction rights of the copyright holders.⁵ In November 2002, software company Roxio, Inc. bought Napster's name and intellectual property and, in December 2003, launched the revived Napster as a licensed streaming service plus single-purchase downloading service for music.⁶

In December 2002, higher education and the entertainment industry formed the Joint Committee of the Higher Education and Entertainment Communities, which is comprised of representatives from the recording industry, university administrators, EDUCAUSE, and the American Council on Education. Co-chaired by Graham Spanier, President of Penn State University, and Cary Sherman, President of the Recording Industry Association of America, the joint committee was formed to "examine ways to reduce the inappropriate use on campuses of P2P file sharing technologies" and "discuss [the two communities'] differences on federal intellectual property legislative issues."⁷

In August 2004, the joint committee reported to the US Congress about efforts during the preceding academic year to address inappropriate file sharing on college campuses. Spanier and Sherman reported that progress had been made in four areas: "legitimate online service, education, enforcement, and technological measures.... Colleges and universities have increasingly been offering new services and amenities to their students, such as free newspapers, special phone plans, and access to cable TV. Heeding the call for new sources of legal content, schools this past year began to introduce legitimate music services on campus."⁸

Penn State's Response

In the fall of 2003, Penn State University announced a license agreement to provide access to the revived Napster online music service for all Penn State students. Students are not charged for this service, which allows them access to free streaming content and tethered downloads (i.e., downloads that the student may retain on up to three computers). The university is paying for this service as part of its overall information technology services partially funded by the Information Technology Fee charged to students (the fee has not increased as a result of this service).⁹

During spring semester 2004, Penn State University tested Napster's new service in a pilot involving 18,000

P2P IN SUPPORT OF EDUCATION AND RESEARCH

One example of an adaptation of peer-to-peer (P2P) technology for education and scholarship is the Penn State LionShare project. Funded by The Andrew W. Mellon Foundation, this project followed upon Penn State's Visual Image User Study (VIUS) assessment of the scholarly use of digital images for teaching, research, and outreach in an academic setting.

LionShare is a P2P networking technology intended to enable community knowledge pools. It "merges secure and expanded electronic file-exchange capabilities with information gathering tools into a single, open source application." The flexibility of P2P provides a basis for enabling all types of research files and learning objects to be stored close to both originators and users.

Decentralized P2P "gives individuals the ability to locally hold, organize, control, and contribute their personal collections for the benefit of a larger community. This does not rule out the long standing archival and distribution roles of centralized knowledge repositories, such as libraries or portal-style repositories. However, extending a knowledge framework to every member of a community means going beyond simply giving everyone a library card; it means enabling everyone to be a collector and a contributor to their personal and community knowledge pool."¹

A question for academic libraries today is how to facilitate the development of such community knowledge pools, including developing and contributing specific types of learning objects (including music files) sourced from collections built by or licensed through the library, proactively or on demand. Students in online music courses and teachers looking for images, music, and texts for a variety of interdisciplinary topics would all benefit from the involvement of librarians who can match content to teaching goals. Active involvement requires a re-envisioning of academic library services, and stronger partnerships across the institution.

—Amanda Maple

¹ "LionShare: Connecting and Extending Peer-to-Peer Networks" (October 2004): 1, 3, <http://lionshare.its.psu.edu/main/info/docspresentation/LionShareWP.pdf>.

students living in residence halls at the University Park campus. Service for all students (over 80,000) was rolled out in fall semester 2004.

Interested in exploring the teaching and learning potential of Napster, President Spanier in early summer 2004 invited the Dean of the University Libraries, Nancy Eaton, to participate with a group of other administrators and faculty in planning ways to facilitate the use of Napster in teaching. Dean Eaton asked the office of Digital Library Technologies to assess the technical issues, and the Music Librarian to help assess the relevance of Napster content to music assignments used in Penn State's academic programs. We compared the list of musical works and performances that are used for teaching by faculty who use the University Libraries' course reserves services¹⁰ to music provided by Napster. Because the Penn State University Libraries also initiated license agreements during the summer of 2004 with Classical Music Library¹¹ and Naxos Music Library,¹² we compared the content of all three online music services with the list of recordings on reserve for courses.

Analysis of Content in Napster & Other Online Music Services

Audio databases tend to be described in terms of the number of tracks they contain. One work in several movements equates to several tracks. As of May 2005, each of the three music services contained roughly half of the tracks that were on reserve for courses.¹³ There was substantial overlap across these services in the representation of works by famous and prolific composers. When checking for specific performances, Napster provided 12% of the performances on our reserve list, Classical Music Library provided about 5%, and Naxos Music Library about 3%. This does not mean however, that the other performances provided by Napster, Naxos, and Classical do not substitute for the purposes of the faculty. Based on our experience so far, the performances available via these services are acceptable to our faculty much of the time.

The types of music on our reserve lists that are not fully represented in these three music services include computer and electronic music, art song, 20th-century composers, medieval and Renaissance music, opera, and world music. We concluded during our initial assessment that faculty would want to select from several sources of music for their teaching: Napster, Naxos Music Library, Classical Music Library, and the University Libraries' collection of sound recordings.

This analysis of Napster's content in relation to the teaching needs of the faculty helped our university administration understand the continuing role of the University Libraries in providing content. The importance to faculty of the specific content in digital services was also reported in the findings of the Visual

Image User Study (VIUS), a 29-month study funded by The Andrew W. Mellon Foundation that assessed needs for digital image delivery at Penn State University. The study, undertaken from 2001 to 2003, concluded that “content is the most important factor when students and faculty consider the value of a digital image delivery system.”¹⁴

Searchability and Metadata

Searching in Napster is similar to that of other online music services developed after the original Napster and P2P file-sharing systems. Napster provides search indexes for track title, album title, and artist, and, as of November 2005, provides an “all” search that enables searching for terms across those three indexes. Browsing is available by genre (such as alternative, blues, Christian, classical, country, dance/electronic, easy listening, folk, hip-hop, jazz, Latin, pop, R&B, reggae, rock, world).

When assessing the effectiveness of Napster’s interface for finding Western art music, which comprises most of the music on course reserve in the library, we observed that searchable terms are not standardized, for example, the personal name of one individual is input in a variety of ways and a composer’s name is frequently in the track title but not in the artist title (this problem should be alleviated by the new “all” index). In other cases it is impossible to tell which work movements derive from, for example, individual movements of Beethoven’s piano trios are listed, but in some cases not which trio they are from. Sometimes the performer is not identified at all. However, a professor who teaches a world music course at Penn State mentioned that her students are able to find music in Napster that helps them fulfill the course’s learning objectives, and they are comfortable with the search interface.

The search interfaces of Classical Music Library and Naxos Music Library, in contrast to that of Napster, were designed to search and retrieve Western art music and provide several additional access points (such as composer, conductor, soloist, work/track title, work/opus number, catalog number, year composed, key, instrument, period, genre, country, moods, label).

Napster’s tool for creating embedded Web links to specific tracks facilitates the integration of Napster content with other course content via electronic course reserves or course management software. Classical Music Library and Naxos Music Library provide similar static URL features.

Technical Issues for Napster in a Networked Environment

Listening to audio from Napster requires installation of the Napster client on the end-user’s computer. The

ONLINE MUSIC SERVICES CONTENT AS A PERCENT OF PENN STATE LIBRARY COURSE RESERVES, MAY 2005

Tracks

Naxos Music Library	52%
Classical Music Library	49%
Napster	45%

Works

Napster	36%
Classical Music Library	35%
Naxos Music Library	34%

Performances

Napster	12%
Classical Music Library	5%
Naxos Music Library	3%

Napster client is compatible with Windows 2000 and Windows XP operating systems. It does not work with earlier versions of Windows or with Macintosh or Linux operating systems. Users must also have the Internet Explorer browser and Windows Media Player. Not all students and faculty at Penn State have computers whose operating systems are compatible with the Napster client. To ensure access to Napster for their learning and teaching, the Digital Library Technologies and Classroom and Lab Computing units of Information Technology Services agreed to install the Napster client on public workstations in the libraries and student computing labs at the University Park campus. In doing so, we learned that the client is not designed to be used in a multi-user networked environment.

Penn State’s license with Napster allows each student access to free streaming content and “tethered” downloads (downloads that students may retain on up to three computers). The library and computing labs decided to block downloads on the public workstations so students would not waste one of their downloads at a public workstation.

The testing and troubleshooting involved in this process took many weeks, but with technical support from Napster, our computer analysts were able to adapt the security already in place on public workstations to accommodate the client and enable streaming from Napster at the public workstations while blocking downloads. When Napster releases a new version of

THE IMPORTANCE OF FAIR USE FOR TEACHING & RESEARCH

Teachers and researchers are creative forces who promote learning and scholarly communication with new and old content in exciting ways. In the Copyright Act, the US Congress “provides that certain kinds of uses of copyrighted works, called fair uses, are not an infringement of copyright.”¹

Fair use is a provision in the copyright law that allows, under certain circumstances, anyone to copy, publish, or distribute parts and sometimes even all of a copyrighted work without permission for purposes such as commentary, news reporting, education, or scholarship. In the world of academic institutions, fair use is an important legal doctrine for teaching and research.

In 2002, Congress enacted another exemption in the copyright law that is important to educational applications. The TEACH Act updated the copyright law pertaining to transmissions of performances and displays of copyrighted materials. The TEACH Toolkit at North Carolina State University explains that the law says “it is not copyright infringement for teachers and students at an accredited, nonprofit educational institution to transmit performances and displays of copyrighted works as part of a course if certain conditions are met. If these conditions are not or cannot be met, use of the material will have to qualify as a fair use or permission from the copyright holder(s) must be obtained.”²

According to Kenneth Crews, because the TEACH Act’s language is tightly limited, “an ironic result is that fair use—with all of its uncertainty and flexibility—becomes of growing importance. Indeed, reports and studies leading to the drafting and passage of the new law have made clear that fair use continues to apply to the scanning, uploading, and transmission of copyrighted materials for distance education, even after enactment of the TEACH Act.”³

—Amanda Maple

¹ Lydia Pallas Loren, “The Purpose of Copyright,” *Open Spaces Magazine* 2, no. 1 (February 1999), <http://www.openspaces.com/article-v2n1-loren.php>.

² Peggy E. Hoon, “The TEACH Toolkit: An Online Resource for Understanding Copyright and Distance Education,” <http://www.lib.ncsu.edu/scc/legislative/teachkit/overview.html>.

³ Kenneth D. Crews, “New Copyright Law for Distance Education: The Meaning and Importance of the TEACH Act,” at the American Library Association’s Web page “Distance Education and the TEACH Act,” <http://www.ala.org/ala/washoff/WOissues/copyrightb/distanced/Default3685.htm>.

their client, Napster content becomes unavailable to users of our public workstations until our technical support staff is able to test the new version, adapt it to our security environment, and install it at each public workstation. This process takes time. Because Classical Music Library and Naxos Music Library do not require unique clients for access and playback (they function with the widely available Windows Media Player and, in the case of Classical Music Library, Macromedia Flash Player) or offer tethered downloads, they do not present the same challenges in our multi-user networked workstation environment.

Library Services

Via the Penn State University Libraries’ electronic reserve service for audio, we point to audio files from Classical Music Library and Naxos Music Library for many courses. After consulting with the instructor, we sometimes point to files from Napster. When the musical work and, when specified, performance requested by faculty is not available from these three services, we provide streamed audio derived from the University Libraries’ collection of sound recordings. Seventy-five percent of the works placed on course reserve during fall semester 2004 are represented in either Naxos Music Library, Classical Music Library, or Napster, though not always in the manifestation needed for the course.

Libraries at other institutions are using portable digital music players, such as iPods, to enhance their services. The Crouch Fine Arts Library at Baylor University supplements its course reserve service for audio by loading a semester’s worth of listening assignments for all music courses onto iPods, which are checked out for a 12-hour loan period.¹⁵ Another academic library reported to an electronic discussion list for music librarians that they reformat fragile or rare sound recordings into the MP4 file format on demand and load the reformatted files onto an iPod to provide access for users, protect the original, and create a preservation file for their library’s digital repository.

New Strategies for Academic Music Libraries

New Preservation Strategies

Academic libraries serve an archival function by developing collections over time for the use of current and future scholars. In the world of electronic journals, projects such as JSTOR,¹⁶ the Electronic Journal Archiving Program,¹⁷ LOCKSS,¹⁸ and Portico,¹⁹ all funded by The Andrew W. Mellon Foundation, are parts of a solution for long-term access to journal content that our libraries pay annually to lease but not to own.

The library community faces the same challenge of guaranteeing preservation of licensed music content for future generations. Diane Parr Walker observed, “If subscriptions to recorded music are the wave of the future,

it is unrealistic to expect an industry motivated by financial profit and driven by consumer market forces to guarantee perpetual access for the benefit of libraries and scholarship."²⁰ The framework for addressing this challenge is now being built.

In 2003, the Council on Information and Library Resources began to study the national picture for audio preservation²¹ and the library community convened a national symposium to assess needs and develop an action agenda.²² In February 2005, the National Endowment for the Humanities funded Sound Directions, an 18-month joint technical archiving project between the Indiana University Archives of Traditional Music and the Archive of World Music at Harvard University.²³ One of the goals of Sound Directions is to "develop best practices and test emerging standards for archival audio preservation and storage in the digital domain." The Sound Directions "Project Narrative" provides an overview of existing standards and related audio digitization projects.²⁴

New Collecting Strategies

The "streaming audio via license" model of access presents other issues similar to those found with e-journals. With aggregator licenses, the library loses its ability through individual selection of works to tailor the collection to the curricular and research needs of its own students and faculty. As in all disciplines, much more music is going to be available through online services than a given library will be able to acquire. We must begin to balance the licensed and the owned content. In this new environment, strategies for developing representative music collections may need to refocus on collecting content that is not easily available through licensed sources.

New Access Strategies

In the digital world, even if all or much of the music content our academic users need is available via aggregated online services, how will our users find it? Do we rely on the varying search interfaces offered by each music service? Will there be a locus for searching in the online library catalog or via a different federated search engine? Bibliographic descriptions of sound recordings in library catalogs are not currently designed to provide track-level access to online music, but the development of new standards for description based on the International Federation of Library Associations and Institutions' "Functional Requirements for Bibliographic Records" (FRBR) promises to enable library catalogs to greatly enhance access to music, including parts of larger works.²⁵ In the commercial arena, a Web search engine called GoFish has recently been developed to provide a federated search across the growing number of online music services such as Napster and iTunes.²⁶ Libraries

need to assess their options for providing users accurate and transparent access to the variety of online music content they license on their users' behalf.

Balancing Institutional Motivations & the Rights of Users of Copyrighted Works

The reasons a college or university administration might decide to promote a license agreement for providing an online music service to its students are understandable: reduce stress on campus network bandwidth; reduce vulnerability to computer viruses spread through file sharing; promote the extracurricular education of students about topics such as ethical behavior, computer viruses, campus network bandwidth, and intellectual property; contribute to a defensible position in court if the institution is sued.

These reasons may not relate to the curricular and research aspects of the institution's mission. Though there are added benefits to teaching that result from such a license agreement, there is also the potential for rhetorical and real limitations that might unintentionally diminish teaching or research by not recognizing the rights of users of copyrighted works, as expressed by the United States Congress.

When initiating license agreements with music copyright holders, educational institutions and libraries must do so in ways that do not dismiss the fair use and TEACH Act rights made available by the copyright law. Licensed audio can be a valuable resource for teaching, learning, and research by providing convenient access for users and enabling access to content that some libraries are not otherwise able to provide. However, depending on the outcome of the fair use analysis, a license may not be necessary for using copyrighted music for learning, teaching, or research, and rhetoric that implies otherwise must be guarded against. An institutional or library license, when negotiated well, will complement rather than narrow a user's rights for use of the content.

As our universities move forward in the digital environment and enter into licensing agreements for access to content—music, images, or text—the rights of faculty and students under copyright law must be protected. Libraries have developed considerable expertise in managing intellectual property rights and responsibilities through their experience with licensed e-journals, expertise that is of value in putting other institutional agreements into place. Library involvement in institutional discussions about license agreements for music is an example of how libraries can contribute to a university's continuous review of policies and development of information services.

—Copyright 2006 Amanda Maple

- 1 The author thanks her Penn State colleagues Nancy Eaton, Dean, University Libraries, and Henry Pisciotta, Arts and Architecture Librarian, for their assistance with this paper, and gratefully acknowledges the contributions of G. Jaia Barrett, Deputy Executive Director, ARL, and Peggy E. Hoon, Scholarly Communication Librarian, North Carolina State University. This paper was made possible by a Penn State University Libraries faculty research grant, 2004–05.
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THE GROKSTER DECISION: THE BASICS & KEY TALKING POINTS

by Peggy Hoon, JD, Scholarly Communication Librarian and Special Assistant to the Provost for Copyright Administration, North Carolina State University, and ARL Visiting Scholar for Campus Copyright and Intellectual Property

It is unlikely that a discussion about online music services on campus can take place without consideration of the “Grokster” litigation. What follows aims to keep such discussions well informed about the facts of this case and about what the US Supreme Court decision in this case does—and does not—say about peer-to-peer technologies and university responsibilities.

General Background of the Case

After the initial Napster software company went out of business as a result of a 2001 court decision,¹ other file-sharing software programs—such as Grokster and Streamcast—became popular. Grokster and Streamcast distribute free software that allows computer users to share electronic files through peer-to-peer (P2P) networks where computers communicate directly, not through a central server. The P2P software allows any kind of file to be shared, although most files shared in this way are copyrighted music and video.

Metro-Goldwyn-Mayer (and others) sued Grokster and Streamcast for contributory copyright infringement. The question asked in the litigation was “*When will a technology vendor be held liable for the copyright infringements committed by 3rd parties with its products?*”²

Lower Court Rulings

The District Court ruled in favor of Grokster and the 9th Circuit Court of Appeals affirmed. Their decision was based on a reading of the Sony case³ that found distributors of products capable of substantial noninfringing uses are not liable for contributory infringement if they had no actual knowledge of the infringement or failed to act when they did. The 9th Circuit further held that Grokster did not materially contribute to infringement because the users did their own searching, downloading, etc. Additionally, there was no vicarious liability because Grokster did not monitor or control the software’s use, there was no ability to supervise, and there was no independent duty to police the infringement.

Supreme Court Ruling

The US Supreme Court agreed to hear the Grokster case and issued its ruling on June 27, 2005.⁴ The Supreme Court held that, “One who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, going beyond mere distribution with knowledge of 3rd party action, is liable

for the resulting acts of infringement by 3rd parties using the device, regardless of the device’s lawful uses.”

Key Points About the Grokster Decision

1. The Grokster case is about uses of *Grokster and Streamcast’s technology*, it is *not* about uses of P2P technology generally.⁵ File sharing itself is not illegal. The Court recognized the benefits of P2P in security, cost, and efficiency—and that it is employed to store and distribute electronic files by universities, government agencies, corporations, and libraries, among others.
2. The Supreme Court held that one who distributes a device with the object of promoting its use to infringe copyright, as shown by *clear expression or other affirmative steps taken to foster infringement*, is liable for the resulting acts of infringement by third parties. Grokster and Streamcast were not just passive recipients of information regarding copyright infringement; instead, they had the clearly voiced objective that consumers use the software to download copyrighted works and they took active steps to encourage infringement.
3. As such, companies that make technology are not responsible for its use unless there is evidence of active steps taken to encourage direct infringement. The technological design is not a factor in determining infringement.
4. In other words, simply knowing a technology can be put to infringing uses *is not enough*; there must be active steps to encourage infringement, such as advertising and instructing how to infringe. Mere knowledge of infringing potential or of actual infringing uses would not be enough to subject a distributor (or a university) to liability, nor would ordinary acts incident to product distribution, such as offering technical support or product updates.
5. Filtering/policing is not required: In the absence of other evidence of intent (to induce), a court would be unable to find contributory infringement liability merely based on a failure to take affirmative steps to prevent infringement if the device was otherwise capable of substantial noninfringing uses.
6. This is a pro-consumer decision that strikes a careful balance between encouraging innovation and protecting copyright. “A rule that premises liability on purposeful, culpable expression and conduct does nothing to compromise legitimate commerce or discourage innovation having a lawful purpose.”⁶
7. What do universities have to do as a result of this decision? “Georgia K. Harper, a lawyer for the University of Texas System, said the court’s decision was unlikely to affect the behavior of colleges

toward illegal file sharing. 'We are already doing pretty much everything we should do,' she said."⁷ This decision does not require monitoring, filtering, censoring, or outlawing P2P file sharing. Since universities do not ordinarily engage in active inducement of copyright infringement, they would not incur contributory liability for the acts of their students misusing file-sharing software. Furthermore, universities already engage in substantial copyright education activities, have copyright policies in place, and respond appropriately to DMCA complaints.

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AMICUS BRIEFS IN THE GROKSTER CASE

The Metro-Goldwyn-Mayer Studios v. Grokster case is important to the library, education, technology, and consumer electronics communities as there are significant implications for future technological development and innovation. As a consequence, ARL, with four other library associations, the Internet Archive, the American Civil Liberties Union, and Project Gutenberg, filed an amicus brief before the US Supreme Court (see <http://www.arl.org/info/ctcases/GroksterSupremeCourt.pdf>). The brief includes examples of peer-to-peer applications in the education and library arenas and also focuses on free speech issues. These organizations also filed an amicus brief when the case was before the Court of Appeals (see <http://www.arl.org/info/frn/copy/groksterbrief.pdf>).

THE ROLE OF FAIR USE IN LIBRARIES AND EDUCATION

The following is testimony from the Library Copyright Alliance (LCA) before the US House of Representatives Subcommittee on Commerce, Trade, and Consumer Protection. The LCA consists of five major library associations—the American Association of Law Libraries, the American Library Association, ARL, the Medical Library Association, and the Special Libraries Association. The testimony was presented on November 16, 2005, by Prue Adler, ARL, at a hearing on "Fair Use: Its Effects on Consumers and Industry."

Fair use is central to our ability to achieve many facets of our missions. Libraries are essential to the communities that they serve and to our Nation. Libraries preserve and provide access to our cultural, historical, and scientific heritage; support and encourage research, education, and lifelong learning; and provide a venue for community engagement on a host of issues.

Libraries, like many other sectors, are undergoing significant transformation in this rapidly evolving digital environment. Today, researchers, students, and members of the public can engage in sophisticated searching and manipulation of information including ready access to data, sound and image files, and more. Increasingly, the data and information available is both current and historical as many libraries, and others, such as Google, Yahoo, Microsoft, and the Internet Archive, digitize special collections that richly reflect the cultural and political history of our Nation.

In this time of transformation, intellectual property policies have been and will continue to be central to the library community. Historically, the library community has relied on copyright law as the policy framework for balancing the competing interests of creators, publishers, and users of copyrighted works. Copyright law balances the rights of authors, publishers, and copyright owners with society's need for the free exchange of ideas. Provisions in the Copyright Act including fair use and related exemptions for libraries and educational institutions allow libraries to achieve our mission of providing effective public access to and the preservation of information in all formats.

Each day teachers teach, students learn, researchers advance knowledge, and consumers access copyrighted information due to exemptions in the Copyright Act such as fair use. Fair use permits the use of copyrighted material without permission from the copyright holder under certain circumstances. For libraries and indeed for consumers, the Fair Use Doctrine is the most important limitation on the rights of the copyright owner—the "safety valve" of US copyright law for consumers.

Fair use or Section 107 of the Copyright Act allows reproduction and other uses of copyrighted works for purposes such as criticism, comment, news reporting,

teaching, scholarship, and research. The statute sets forth four factors to be considered in determining whether a use is fair, including the character of the use, the nature of the work, the amount used in proportion to the whole, and the impact on the market for the work. Fair use has served us well because there is no fair use checklist. The four factors provide libraries and users alike with needed flexibility. And there is no need to import from other sections of the law the detailed list of conditions, prohibitions, and exclusions such as those found in the TEACH Act concerning distance education. Importantly, there is no bright line for fair use. Thus, fair use is dynamic, inherently ambiguous, and not easily defined but critically important in ensuring legitimate access to copyrighted works.

Library patrons routinely rely on fair use. A teacher, for example, might photocopy a few pages of a history text found in a library to hand out to her class. A student may include in a term paper a quotation from a novel checked out of a library while a researcher might give a copy of a journal article describing a laboratory technique to a technician who works for her. A small business owner may print out accounting tips from a Web site he accesses from a library computer. These are fair uses of copyrighted works.

In addition to fair uses by library patrons, libraries rely upon fair use in support of a number of library activities. While US copyright law does contain explicit exceptions for libraries and archives in Section 108, these exceptions do not cover every circumstance under which a library might need to use a work. Section 108 specifically provides that “[n]othing in this section...in any way affects the right of fair use as provided by section 107....” For example, library practices for both print and electronic reserves are based on fair use.

For decades, libraries have provided access to materials selected by faculty as required or recommended course readings in a designated area of the library, with materials available to students for a short loan period and perhaps with additional restrictions to ensure that all students have access to the material. These materials are important to the course but do not warrant the purchase of an entire text by the student. Libraries have based these reserve reading room operations on the fair use provisions of the Copyright Act.

More recently, as with other services, many libraries have introduced electronic reserves (e-reserves) systems that permit material to be stored in electronic form and accessed in the library or remotely by the student enrolled in the course. E-reserves systems are a more effective means to provide student

access to needed copyrighted materials. E-reserves are an excellent example of the flexibility of fair use and demonstrate that it is technologically neutral in its application.

Within the past decade, there has been a notable shift by publishers to license their works to libraries in lieu of the purchase of these works by libraries. Licensing provides publishers with greater control in the use of their works—how they are used, by whom, and at what cost. Licensing access to copyrighted works versus the acquisition of the copyrighted work by libraries presents new challenges to both libraries and their patrons. Under license agreements, a library is bound by the terms of the agreement. These agreements do not necessarily reflect the privileges and exceptions of the Copyright Act such as fair use, preservation, and interlibrary loan. For example, if libraries are unable through negotiation to include in the license terms the ability to perform preservation on copyrighted works, libraries can no longer exercise the rights that are otherwise available through the Copyright Act.

Licensing and technological controls built into a licensed database can restrict the fair use rights of library users in a number of ways. Technological controls can limit the number of copies of an article copied or the amount of text reproduced. These amounts are controlled by the printing and downloading commands of the licensed database. Once technological controls are built into a database with copyrighted materials, it becomes difficult if not impossible for libraries to negotiate exceptions.

Although libraries may preserve copyrighted works under Section 108 of the Copyright Act, there may be times that libraries choose to preserve copyrighted works under Section 107, Fair Use. If a license does not permit the preservation of copyrighted works and a library cannot exercise fair use due to the license terms and/or technological controls, copyrighted works will be lost to future generations. Publishers have not undertaken preservation of copyrighted works. Instead, it is libraries that preserve these works for future users.

In closing, fair use serves a critically important role in the library and educational arena and in all sectors, both public and private. Fair use, in addition to reflecting in copyright law First Amendment-based principles of free speech, provides the basis for our most important day-to-day activities in scholarship and education. Fair use safeguards our collective interest in the flow of information—which is, in turn, a source of culturally and economically valuable knowledge.



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ARL CALENDAR 2006

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| March 13 | Sunshine Week 2006:
Are We Safer in the Dark?
A National Teleconference on
Open Government and Secrecy
1:00 p.m.–2:30 p.m. EST |
| April 3–4 | CNI Spring Task Force Meeting
Arlington, VA |
| April 5–8 | Living the Future 6:
WOW—Where Next?
Tucson, AZ |
| May 16–19 | ARL Board & Membership Meeting
Ottawa, Ontario |
| July 12–14 | ARL/ACRL Institute on
Scholarly Communication
Los Angeles, CA |

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| July 24–25 | ARL Board Meeting
Washington, DC |
| October 17–20 | ARL Board & Membership Meeting
Washington, DC |
| December 4–5 | CNI Fall Task Force Meeting
Washington, DC |

ARL MEMBERSHIP MEETINGS 2007 & 2008

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| May 23–25, 2007, St. Louis, Missouri |
| October 10–12, 2007, Washington, DC
<i>Note New Dates</i> |
| May 21–23, 2008, Coral Gables, Florida |
| October 15–17, 2008, Washington, DC
<i>Tentative Dates</i> |

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